



1

## SEQUENCE LISTING

<110> CERTA, ULRICH  
LUNDSTROM, KENNETH

<120> INHIBITION OF EXPRESSION OF A TARGET GENE

<130> 20787 US

<140> 09/994,412  
<141> 2001-11-27

<150> EP 00126113.0  
<151> 2000-11-29

<160> 3

<170> PatentIn Ver. 3.3

<210> 1  
<211> 1299  
<212> RNA  
<213> Homo sapiens

<400> 1

auguugggca acucugcgcc ggggccugcg acccgcgagg cgggcucggc gcugcuagca 60  
uugcagcaga cggcgcucca agaggaccag gagaauauca acccgaaaaa ggcagcgccc 120  
guccaacaac cgccggaccgg ggccgcgcug gcgguacuga aguccggaa cccgcggggu 180  
cuagcgcagc agcagaggcc gaagacgaga cggguugcac cccuuuaagga ucuuccugua 240  
aaugaugagc augucaccgu uccuccuugg aaagcaaaca guaacacagcc ugcguucacc 300  
auucaugugg auccagcaga aaaagaagcu cagaagaagc cagcugaauc ucaaaaaaua 360  
gagcgugaag augccucuggc uuuuauuua gccauuaguu uaccuggacc cagaaaaacca 420  
uuggucccuc uugauuaucc auggauggu aguuuugagu caccacauac uauggacaug 480  
ucaauuugau uagaagaga aaagccagug aguguuuaug aaguaccaga cuaccaugag 540  
gauauucaca cauaccuuag ggaaauggag guuuaugua aaccuuuagu ggguuuacaug 600  
aagaaacagc cacagcaucac uaacaguaug agaccauac ucguggacug guuaguugaa 660  
guaggagaag aauuaauuacu acagaaugag acccugcauu ugugcugugaa cuacauugau 720  
agguuccugu cuuccaunguc agugcugaga ggaaaacuuc agcuuugugg cacugcugc 780  
augcuguuag ccuucaaaguu ugaagaaaaa uaccccccag aaguagcaga guuuguguac 840  
auuacagaug auaccauacac caagaaacaa guucugagaa uggagcaucu aguuuugaaa 900  
guccuuuacuu uugacuuuagc ugcuccaaca guaaaaucagu uucuuuacca auacuuuucug 960  
caucagcagc cugcaaacug caaaguugaa aguuuagcaa uguuuuuggg agaauuaagu 1020  
uugauagaug cugacccaua ccuacaagu uugccaucag uuauugcugg auccgcccc 1080  
cauuuagcac ucuacacagu cacggacaa agcuggccug aauuuuaau acgaaagacu 1140  
ggauauuaccc ugaaagucu uaagccuugu cucauggacc uucaccagac cuaccucaa 1200  
gcaccacagc augcacaaca gucaauuaaga gaaaaguaca aaaaauuacaa guaucauggu 1260  
guuucucucc ucaacccacc agagacacua aaucuguaa 1299

<210> 2  
<211> 1197  
<212> RNA  
<213> Homo sapiens

<400> 2

auggcgcugc uccgacgccc gacggugucc agugauuugg agaaauauuga cacaggaguu 60  
aaauucuaaag uuaagaguca ugugacuauu aggcgaaacug uuuuagaaga aauuggaaaau 120  
agaguuacaa ccagagcagc acaaguagcu aagaaagcuc agaacaccaa aguuccaguu 180

caaccacca aaacaacaaa ugucaacaaa caacugaaac cuacugcuuc ugucaaacca 240  
 guacagaugg aaaaguuggc uc当地agggc cciucuccca caccugagga ugucucca 300  
 aaggaaagaga aucucugcc agcuuuuuuucu gaugccuugc ucugcaaaau cgaggacauu 360  
 gauaacgaag auuggggagaa cccucagcuc ugcagugacu acguuaagga uaucuaucag 420  
 uaucucaggc agcuggaggg uuggcagucc auaaaacccac auuucuuaga uggaagagau 480  
 auaaaauggac gcaugcgugc cauccuagug gauccgcugg uacaagucca cuccaaguuu 540  
 aggcuucugc aggagacucu guacaugugc guuggcauuu uggaucgauu uuuacagguu 600  
 cagccaguuu cccggaagaa gciucuuua guugggauua cugcucugcu cuuggcuucc 660  
 aaguauaggg agauguuuuc uc当地aaauuuu gaagacuuuug uuuacaucac agacaauugc 720  
 uauaccaguu cccaaauccg agaaauggaa acucuaauuu ugaaagaauu gaaauuugag 780  
 uugggucgac cciucugccacu acacuucuuu aggcgagcau caaaagccgg ggagguugau 840  
 guugaacagc acacuuuagc caaguauuug auggagcuga cucucaucga cuaugaua 900  
 gugcauauc auccuucuaa gguagcagca gcugcuucc gciugucuca gaaggaucca 960  
 ggacaaggaa aauggaacuu aaagcagcag uauuacacag gauacacaga gaaugaagua 1020  
 uuggaaguca ugcagcacau ggccaagaa guggugaaag uaaaugaaaa cuuaacuaaa 1080  
 uucaucgcca ucaagaauuaa guaugcaagc agcaaacucc ugaagauucag caugauuccu 1140  
 cagcugaacu caaaagccgu caaagaccuu gccuuccc ac ugauaggaag guccuag 1197

&lt;210&gt; 3

&lt;211&gt; 10610

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic vector sequence

&lt;400&gt; 3

gatggcggat gtgtgacata cacgacgcca aaagattttt ttccagctcc tgccacccctcc 60  
 gctacgcgag agattaacca cccacatgg cgc当地aaagt gcatgttgat attgaggctg 120  
 acagcccatt catcaagtct ttgcagaagg catttccgtc gttcgagggtg gagtcattgc 180  
 aggtcacacc aaatgaccat gcaaatgcca gacacttgc tcttggatat cggcagtgcg ccttccagga 240  
 tcgagcagga gactgacaaa gacacactca tcttggatat cggcagtgcg ccttccagga 300  
 gaatgtgtc tacgcacaaa taccactgog tatgccttat ggc当地gc当地 gaagaccccg 360  
 aaaggctcga tagctacgca aagaactgg cagcggcctc cgggaagggtg ctggatagag 420  
 agatcgcagg aaaaatcacc gacctgcaga cctgtcatggc tacgc当地cagac gctgaatctc 480  
 ctaccccttg cctgcataca gacgtcacgt gtc当地acggc agccgaaatg gccgtataacc 540  
 aggacgtta tgctgtacat gcaacacat cgtgtacca tcaggcgatg aaagggtgtca 600  
 gaacgc当地 ttggattttt tttgacacca cccctttat gttgacgc当地 ctgc当地ggc 660  
 ctatccaaac ctacgcccaca aactggccg acgagcagggt gttacaggcc aggaacata 720  
 gactgtgtc agcatccctt actgagggaa gactcggcaa actgtccatt ctccgc当地a 780  
 agcaattgaa accttgc当地 acagtc当地t gtc当地gtttagg atctacattt tacactgaga 840  
 gcagaaagct actgaggagc tggacttac cctccgtatt ccacctgaaa gtaaaacaat 900  
 ccttacctg taggtgc当地 accatcgtat catgtgaagg gtacgtatg aaaaaatca 960  
 ctatgtgccg cggcctgtac ggtaaaacgg taggtacgc cgtgacgtat cacgc当地ggagg 1020  
 gattccatgt gtgc当地agacc acagacactg tcaaaaggaga aaggtctca ttccctgtat 1080  
 gcacccatgt cccctcaacc atctgtatc aatgactgg cataactgacg accgc当地gtca 1140  
 caccggagga cgc当地agaag ttgttagtgg gattgaatca gaggatagtt gtgaacggaa 1200  
 gaacacagcg aaacactaac acgatgaaga actatctgt tccgattgtg gccgtcgcat 1260  
 ttagcaagtg ggc当地ggaa tacaaggcag accttgc当地t gtaaaaaacct ctgggtgtcc 1320  
 gagagaggc当地 acttacttgc tgctgttgc当地 gggc当地ttaa aacgagggaa atgc当地acca 1380  
 tgtacaagaa accagacacc cagacaatag tgaagggtcc ttcaaggatg aactcggtcg 1440  
 tc当地cccgag cctatggctc acaggcctcg caatccc当地t cagatcacgc attaagatgc 1500  
 ttttggccaa gaagaccaag cgagagttaa tacctgttct cgacgc当地gtcg tcagccagg 1560  
 atgctgaaca agaggagaag gagaggttgg aggccgagct gactagagaa gc当地taccac 1620  
 ccctcgccc catcgccgccc gccc当地acgg gagtc当地gtcg cgtc当地acgtt gaagaactag 1680  
 agtatacgc当地 aggtgc当地gggg gtc当地ggaaa cacctcgc当地 cgc当地ttgaaa gtc当地ccgc当地c 1740

agccgaacga cgtactacta ggaaattacg tagttctgtc cccgcagacc gtgctcaaga 1800  
 gctccaagtt ggccccctgtg caccctctag cagagcaggat gaaaataata acacataacg 1860  
 ggagggccgg cggttaccag gtcgacggat atgacggcag ggtctacta ccatgtggat 1920  
 cggccattcc ggtccctgtg tttcaggctt tgagcgagag cgccactatg gtgtacaacg 1980  
 aaagggagtt cgtcaacagg aaactatacc atattgccgt tcacggaccc tgcgtgaaca 2040  
 ccgacgagga gaactacgag aaagtccagtg ctgaaagaac tgacgcccag tacgtgttcg 2100  
 acgttagataa aaaatgctgc gtcaagagag aggaagcgtc gggtttgggtg ttggtgggag 2160  
 agctaaccaa ccccccgttc catgaattcg cctacgaagg gctgaagatc aggccgtcg 2220  
 caccatataa gactacagta gtaggagtct ttggggttcc gggatcaggc aagtctgcta 2280  
 ttattaagag cctcgtgacc aaacacgatc tggtcaccag cggcaagaag gagaactgcc 2340  
 aggaaatagt taacgacgtg aagaagcacc gcgggaaggg gacaagttagg gaaaacagtg 2400  
 actccatcct gctaaccggg tgcgtcggt ccgtggacat cctatatgtg gacgaggctt 2460  
 tgcgttgcca tcccggtact ctgctggccc taattgctct tgtaaacctt cggagcaaag 2520  
 tggtgttatg cggagacccc aagcaatgcg gattcttcaa tatgtgcag cttaagggtga 2580  
 acttcaacca caacatctgc actgaagtat gtcataaaag tatatccaga cgttgcacgc 2640  
 gtccagtcac ggcacatgtg tctacgttgc actacgggg caagatgcgc acgaccaacc 2700  
 cgtcaacaa acccataatc atagacacca caggacacac caagcccaag ccaggagaca 2760  
 tcgtgttaac atgcttccgaa ggctggcaaa agcagctgca gttggactac cgtggacacg 2820  
 aagtcatgac agcagcagca tctcaggggc tcacccgcaaa aggggtatac gccgtaaaggc 2880  
 agaagggtgaa tgaaaatccc ttgtatgccc ctgcgtcgga gcacgtaat gtactgctga 2940  
 cgcgactgaa ggataggctg gtgtgaaaaa cgctggccgg cgatccctgg attaagggtcc 3000  
 tatcaaacat tccacagggt aactttacgg ccacattggaa agaatggcaaa gaagaacacg 3060  
 acaaaataat gaaggtgatt gaaggaccgg ctgcgcctgt ggacgcgttc cagaacaaag 3120  
 cgaacatgtg ttggcgaaaa agccttgcgtc ctgtcctggaa cactgcccga atcagattga 3180  
 cagcagagga gtggagcacc ataattacag catttaaggaa ggacagagct tactctccag 3240  
 tggtgtccctt gaatgaaatt tgcaccaagt actatggagt tgacctggac agtggctgt 3300  
 tttctgcccc gaaggtgtcc ctgttattacg agaacaacca ctggataaac agacctgggt 3360  
 gaaggatgta tggattcaat gcccaacacg ctgcccaggct ggaagctaga cataccttcc 3420  
 tgaaggggca gtggcatacg ggcaagcaggc cagttatcgca agaaagaaaa atccaaccgc 3480  
 tttctgtgtc ggacaatgtt attcctatca accgcaggct gccgcacgccc ctgggtggctg 3540  
 agtacaagac ggttaaaggc agtagggttt agtggctggat caataaagta agaggggtacc 3600  
 acgtctctgtc ggtgagtgag tacaacctgg ctttgcctcg acgcgcacgtc acttgggttgt 3660  
 caccgctgaa tgcacaggc gccgataggt gctacgaccc aagtttagga ctgcccggctg 3720  
 acggccggcag gttcgacttg gtctttgtga acattcacac ggaattcaga atccaccact 3780  
 accagcgtg tgcgaccac gccatgaagc tgcagatgct tggggagat ggcgtacgac 3840  
 tgctaaaacc cggccggatc ttgatgagat cttacggata cggccataaa atcagcgaag 3900  
 ccgttggttc ctctttaacg agaaatgtt cgtctcgaaag atgttgcgc cccgattgtg 3960  
 tcaccagcaa tacagaagtg ttcttgcgtt tctccaaactt tgacaacggaa aagagaccc 4020  
 ctacgctaca ccagatgaat accaagctga gtgcccgttga tgccggagaa gccatgcaca 4080  
 cggccgggtg tgcaccatcc tacagagtta agagagcaga catagccacg tgcacagaag 4140  
 cggctgtgtt taacgcagct aacgcccgtg gaactgtagg ggatggcgta tgcagggccg 4200  
 tggcgaagaa atggccgtca gcctttaagg gaggcagcaac accagtggc acaattaaaa 4260  
 cagtcatgtg cggctcgta cccgtcatcc acgctgttagc gcctaatttc tctgccacga 4320  
 ctgaagcggaa aggggaccggc gaattggccg ctgtctaccg ggcagtggcc gccgaagtaa 4380  
 acagactgtc actgagcagc gtgcacatcc cgctgtgtc cacaggagtg ttcagcggcg 4440  
 gaagagatag gtcgacggaa tccctcaacc atctattcac agcaatggac gccacggacg 4500  
 ctgacgtgac catctactgc agagacaaaa gttggggagaa gaaaatccag gaagccattg 4560  
 acatgaggac ggctgtggag ttgcataatg atgacgtggat gctgaccaca gacttgggt 4620  
 gagtgacccc ggacagcagc ctgggggtc gtaagggtca cagtaccact gacgggtcgc 4680  
 tgtactcgta ctttgaaggt acgaaattca accaggctgc tattgatatg gcagagatac 4740  
 tgacgttgcgtc gcccagactg caagaggcaaa acgaacacat atgcctatac ggcgtggccg 4800  
 aaacaatggaa caacatcaga tccaaatgtc cggtaacgca ttccgattca tcaacaccc 4860  
 ccaggacagt gcccgtctgt tgccgtacg caatgacagc agaacggatc gcccgtctta 4920  
 ggtcacacca agttaaaggc atgggtgtt gtcgtatctt tccccctcccg aaataccatg 4980  
 tagatggggat gcaaggatc aagtgcgaga aggttctccctt gttcgaccgg acggtaacctt 5040  
 cagtgggttag tccgcggaaat tatgcgcgtat ctacgacggca ccactcagat cggtcgttac 5100  
 gaggggtttaga cttggactgg accaccgact cgtcttccac tgccagcgtat accatgtcgc 5160  
 taccctgtt gcaatcgact gacatcgact cgtatctacg gccaatggct cccatagtag 5220

tgacggctga cgtacaccct gaaccgcag gcacgcgga cctggcggca gatgtgcacc 5280  
ctgaacccgc agaccatgtg gacctggaga acccgattcc tccacccgcg ccgaagagag 5340  
ctgcataacct tgcccccgc gccccggagc gaccgggtgcc ggcggcggaga aagccgacgc 5400  
ctgccccaaag gactgcgtt aggaacaagc tgccttgcac gttcgccgac ttgcacgagc 5460  
acgaggctcgta tgcggtggcc tccgggatta cttcgggaga ctgcacgac gtcctgcgac 5520  
taggcccgcg ggggtgcata attttctct cggacactgg cagcggacat ttacaacaaa 5580  
aatccgttag gcagcacaat ctccagtgcg cacaactggta tgcggtccag gaggagaaaa 5640  
tgtaccgccc aaaattggat actgagaggg agaagctgtt gctgctgaaa atgcagatgc 5700  
acccatcgga ggctaataag agtcgatacc agtctcgcaa agtggagaac atgaaagcca 5760  
cggtggtggc caggctcaca tcgggggcca gattgtacac gggagcggac gttaggcccga 5820  
taccaacata cgcggttcgg tacccccgcg ccgtgtactc ccctaccgtg atcgaaaagat 5880  
tctcaagccc cgatgttagca atgcacgcgt gcaacgaata cctatccaga aattacccaa 5940  
cagtggcgtc gtaccagata acagatgaat acgacgcata cttggacatg gttgacgggt 6000  
cggatagttt cttggacaga ggcacattct gcccggcga gctccgggtgc taccggaaac 6060  
atcatgcgtc ccaccagccg actgtacgca gtggcgccccc gtcacccctt cagaacacac 6120  
tacagaacgt gctagcggct gccaccaaga gaaactgcaa cgtcacgcaa atgcgagaac 6180  
tacccacat ggactcgccgat gtttgcgtt caagcgctat gcctgctcg 6240  
gagaatattt ggaagaataat gctaacaac ctatccggat aaccatcgag aacatcacta 6300  
cctatgtgac caaattgaaa ggcccggaaatg ctgctgcctt gttcgctaag accccacaact 6360  
tggttccgcgat gcaggaggtt cccatggaca gatttcacggt cgacatgaaa cgagatgtca 6420  
aagtcaactcc agggacgaaa cacacagagg aaagacccaa agtccaggta attcaagcag 6480  
cggagccatt ggcgaccgcgt tacctgtgcg gcatccacag ggaatttagta aggagactaa 6540  
atgctgtgtt acgccttaac gtgcacacat tgtttgat gtcggccgaa gactttgacg 6600  
cgatcatcgccatctcaacttcc caccaggag accccgggttca agagacggac attgcacatcat 6660  
tcgacaaaag ccaggacgac tccttggctc ttacagggtt aatgatcctc gaagatctag 6720  
gggtggatca gtacctgtcg gacttgatcg aggacgcctt tggggaaata tccagctgtc 6780  
acctaccaac tggcacgcgc ttcaagttcg gagctatgat gaaatcgggc atgtttctga 6840  
ctttgttttat taacactgtt ttgaacatca ccatagcaag cagggtactg gaggcagagac 6900  
tcactgactc cgccctgtcg gccttcatcg ggcacgcacaa catcggttccac ggagtgtatc 6960  
ccgacaagct gatggcggag aggtgcgcgt cgtgggtcaa catggaggtg aagatcatcg 7020  
acgctgtcat gggcgaaaaaa cccccatatt tttgtggggg attcatagtt ttgacagcgc 7080  
tcacacagac cgccctgcgt gtttcagacc cacttaagcgc cctgttcaag ttgggttaagc 7140  
cgctaacaacg tgaagacaag caggacgaag acaggcgcacg agcactgagt gacgaggta 7200  
gcaagtgggtt ccggacaggc ttggggccg aactggaggtt ggcactaaca tcttaggtatg 7260  
aggttagaggg ctgcaaaagt atccctcatag ccatggccac cttggcgagg gacattaagg 7320  
cgttttaagaa attgagagga cctgttatac acctctacgg cggctctaga ttgggtcggtt 7380  
aatacacacaa attctgttattt gatcccggtc cgaagcgcgc ttggggggaa actcgaggatc 7440  
actatgtcgat cccgcggccg ctttgcgaacc taggcaagca tgcggggccca gtgggttaatt 7500  
aattgaattt catccctacg caaacgtttt acggccgcgg gtggccccc cgccccggcgg 7560  
cccgtccttgcgtt ggcgttgcag gccactccgg tggctcccgat cgtcccccgcac ttccaggcccc 7620  
agcagatgcgca gcaactcattc agcgcgtaa atgcgtgcac aatgagacag aacgcaattt 7680  
ctccctgtcgtag gagcttaattt cgacgaaataa ttggatttt attttattttt gcaattgggtt 7740  
tttaatattt caaaaaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa 7800  
aaaaaaaaaaa aaaaaaaaaaaa aactagaaat cgcgatttttct agtctgcatt aatgaatcgg 7860  
ccaaacgcgcg gggagaggcg gtttgcgtat tggcgctct tccgcttcct cgctcactgaa 7920  
ctcgctgcgc tcggcgttcc ggcgtggcg agcggatcata gctcaactcaa aggccggtat 7980  
acggttatcc acagaatcg gggataacgcg aggaaagaac atgtgagcaa aaggccagaca 8040  
aaaggccagg aaccgtaaaaa aggccgcgtt gtcggcggtt ttccatagggc tccggcccccc 8100  
tgacgagcat cacaatccatc gacgctcaag tcagagggtgg cgaaacccga caggactata 8160  
aagatacccg gctttccccc ctggaaagctc cctcgtgcgc ttcctgttc cgaccctgccc 8220  
gcttaccggc tacctgtccg cttttctccc ttccggaaagc gtggcgctt ctcaatgctc 8280  
gcccgttgcgtt tatctcgat ggtgttaggt cgttcgtcc aagctgggtt gtgtgcacgaa 8340  
accccccgtt cagccgcacc gctgcgcctt atccggtaac tatcgctttt agtccaaaccc 8400  
ggtaagacac gacttatacg cactggcagc agccactggt aacaggatata gcaagcgcgag 8460  
gtatgttaggc ggtgtacag agttcttgcgat gttggggccctt aactacggctt acactagaag 8520  
gacagttt ggtatctgcg ctctgtcgaa gccagttacc ttccggaaaaa gagttggtag 8580  
ctcttgcgtt ggcacaaacaaa ccaccgtgg tagcgggtgg ttttttgggtt gcaagcgcgca 8640  
gattacgcgc agaaaaaaaaag gatctcaaga agatcccttg atctttctca cgggggtctga 8700

cgctcagtgg aacgaaaact cacgttaagg gatTTGGTC atgagattat caaaaggat 8760  
 cttcacctag atcTTTTAA attaaaaatg aagTTTAAA tcaatCTAAA gtatATATGA 8820  
 gtaaaACTGG tctgacAGTt accaatGCTT aatCAGTGA GcaccatATC CAGCGATCTG 8880  
 tCTATTTCGT tcatCCATAG ttgcCTGACT ccccGTCGTG tagataACTA CGATAcGGGA 8940  
 gggCTTACCA tCTGGCCCCA GTGCTGCAAT gataCCGCGA GACCCACGCT CACCGGGCTCC 9000  
 agatttatca gcaataaaacc agccAGCCGG aaggGCCGAG CGCAGAAGTG GTCCTGCAAC 9060  
 tttatCCGCC tccatCCAGT ctattaATTG ttGCCGGGAA gCTAGAGTAA GtagttCGCC 9120  
 agttaatAGT ttgcGCAACG ttgttGCCAT tgCTACAGGC ATCGTGGTGT CACGCTCGTC 9180  
 gtttGGTATG gCTTCATTCA gCTCCGGTTC CCAACGATCA AGGCAGGTAA CATGATCCCC 9240  
 catgttGTGC aaaaaAGCGG ttagCTCCTT CGGTCCCTCG ATCGTTGTCA GAAGTAAGTT 9300  
 ggCCGAGTG ttatCACTCA tggTTatGGC AGCACTGCA tattCTCTTA CTGTcatGCC 9360  
 atCCGTAAGA tgCTTTCTG tgactGGTGA gtactCAACC aagtCAATTCT gagaATAGTG 9420  
 tatGCGGCGA CCGAGTTGCT ttGCCCAGC GtCAATAcCG GataATAcCG CGCCACATAG 9480  
 cagaACTTTA aaAGTGTCA tcATTGGAAA acGTTCTCG GGGCGAAAAC tCTCAAGGAT 9540  
 cttacCGCTG ttGAGATCCA gttcgatGT ACCCACTGT GCACCCAACT GATCTTCAGC 9600  
 atCTTTTACT ttCACCAcGG tttCTGGGTG AGCAAAAACA ggaaggcAAA atGCCGcAAA 9660  
 aaaggGAATA agggcGACAC gggAAATGTTG aataCTCTT ttcAATATTAA 9720  
 ttGAAGCATT tATCAGGGTT ATTGTCTCAT GAGCAGGATAC ATTtTAATGAttTTAGAA 9780  
 aaataAAACAA atAGGGGTTc CGCGCACATT tccccGAAAAG GtGCCACCTG ACgtCTAAGA 9840  
 aaccATTATT atCATGACAT taACCTATAA AAATAGGCGT ATCACGAGGC CTTTCGTCT 9900  
 CGCGCTTc ggtGATGACG gtGAAAACCT CTGACACATG CAGCTCCCG AGACGGTCAC 9960  
 agCTTCTGTC taAGCGGATG CCGGGAGCAG ACAAGCCGT CAGGGCGCGT CAGCGGGTGT 10020  
 tggcGGGTGT CGGGGCTGGC ttaACTATGC GGCATCAGAG CAGATTGTAC TgAGAGTgCA 10080  
 ccatATCGAC GCTCTCCCTT ATGCGACTCC TGCATTAGGA AGCAGCCAG TACTAGGTG 10140  
 aggCCGTTGA GcAccGCCGc CGCAAGGAAT ggtGATGCA AGGAGATGGC GCCCAACAGT 10200  
 cccccGGCCA CGGGGCTGC CACCATACCC ACGCCGAAAC AAGCGCTCAT GAGCCCGAAG 10260  
 tggcGAGCCC GATCTCCCCC ATCGGTGATG TCGGCATAT AGGCGCCAGC AACCGCACCT 10320  
 gtggcGCCGG TgATGCCGGC CACGATGCGT CGGGCGTAGA GGATCTGGCT AGCGATGACC 10380  
 ctgCTGATTG GttCGCTGAC CATTCCGGG GtGCGGAACG GCGTTACCGAG AAACtCAGAA 10440  
 ggTTCTGCTCA accAAACCGA CTCTGACGGC AGTTACCGAG AGAGATGATA GGGTCTGCTT 10500  
 cagtaAGCCA GATGCTACAC AATTAGGCTT GTACATATTG TCGTTAGAAC GCGGCTACAA 10560  
 ttaatacata acTTATGTA tcataCACAT acGATTtACC tcacACTATA 10610